

Heat Surveillance Summary - 1996

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The Missouri Department of Health, in cooperation with local health departments, has conducted some form of heat surveillance since the great heat wave of 1980 when 295 Missourians died due to heat-related causes. Through public health education and news releases the department works to increase the public's awareness of the dangers that high temperatures and humidity can have on their health.

During the summer months, the department monitors on a daily basis the heat indexes in five areas of the state and issues appropriate heat advisories as needed. See sidebar on this page. Two advisories were issued in 1996, a heat warning on June 21 and a heat alert on July 18.

On June 12, when heat indexes first reached 90° or above in three of the five areas of the state monitored, the Department of Health issued its annual news release urging awareness of heat-related illness. The department issued the first statewide heat warning on June 21 after heat indexes sharply increased on June 20 with continued high temperatures predicted to continue through the weekend. Heat indexes on June 20 were 112° in Cape Girardeau, 111° in St. Louis and 110° in Columbia and Kansas City, and 106° in Springfield. Heat indexes dropped and remained around 100° for the next three days. These four days of high heat indexes accounted for 15 percent (30/198) of the reported heat-related illnesses and 14 percent (1/7) of the recorded heat-related deaths in 1996. See Figure 1.

Heat indexes again increased to 100° or above on July 17 with 107° in Kansas City and Columbia, 105° in St. Louis, 104° in Cape Girardeau and 100° in Springfield. Because heat indexes were predicted to continue to increase and remain high through the weekend, the Department of Health issued the first

Stages of Heat Advisories Used in Summer 1996*

A **Heat Warning** will be issued when a heat index of 105° is first reached (or predicted). The Department of Health urges personal caution as well as concern for others at high risk. In addition, monitoring of temperatures is intensified.

A **Heat Alert** will be issued when:

1. The afternoon heat index has been at least 105° for two days and
2. When weather forecasts call for continued high-stress conditions for at least 48 hours over a large proportion of the state.

During a **Heat Alert**, the Department of Health encourages local health departments to arrange for cooling shelters, and also encourages other community agencies to provide relief from the heat stress.

The Department of Health will recommend to the Governor that a statewide **Heat Emergency** be declared when:

1. Extensive areas of the state are experiencing high and sustained levels of heat stress (determined when the heat index reaches 105° for three days); and
2. Increased levels of heat-related illnesses or deaths are found in these areas; and
3. The National Weather Service predicts that hot and humid conditions are likely to continue for several days.

The **Heat Emergency** designation will be canceled when the heat index falls below 105° for 48 hours and the National Weather Service predicts a low probability that severe conditions will return within 48 to 72 hours.

*NOTE: Different terminology will be used for 1997. See article on page 8 of this issue.

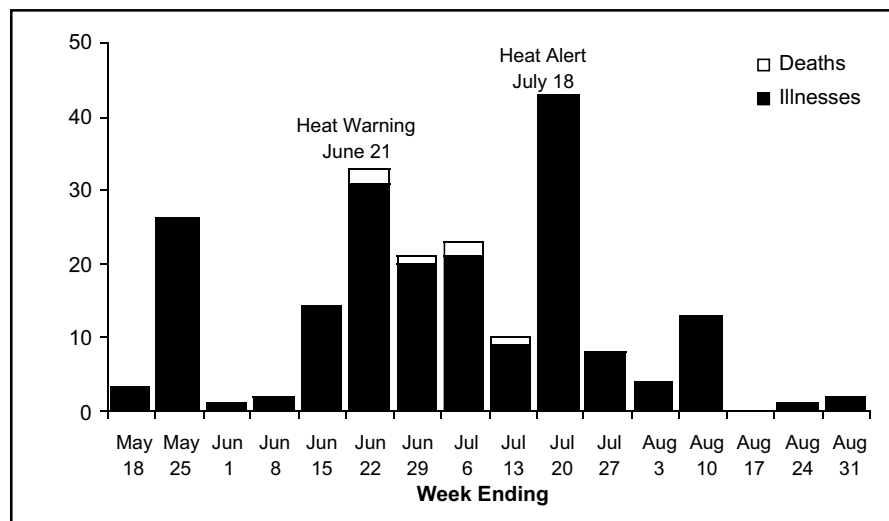


Figure 1. Reported heat-related illnesses and recorded heat-related deaths by week of occurrence, Missouri, Summer 1996.

statewide heat alert on July 18. Heat indexes across the state peaked on July 19 at 112° in Kansas City and Columbia, 110° in Cape Girardeau, 109° in St. Louis and 104° in Springfield. The statewide heat alert was lifted on July 22 after heat indexes dropped below 100° in three of the five monitored areas on July 21. This four-day heat wave accounted for 21 percent (42/198) of the reported heat-related illnesses. No heat-related deaths were recorded for this time period. See Figure 1.

It was noted that more heat-related illnesses were reported during the four-day heat wave of July 17-20 than the four-day heat wave of June 20-23. We usually see more illnesses during the first heat wave of the summer because Missourians have not yet acclimated to the heat. However, the first heat wave had only one day of high heat indexes compared to three days of continued high heat indexes during the second heat wave.

Heat indexes for the remainder of the summer were relatively low statewide and no further heat warnings or alerts were warranted.

Temperatures during the summer of 1996 were relatively mild with only four days having heat indexes of 105° or above in three out of the five areas of the state monitored. In 1995, there were 16 days when heat indexes were 105° or above in three of the five areas.

During the summer of 1996, one statewide heat warning and one statewide heat alert were issued, whereas three statewide heat alerts were issued in 1995. One statewide heat alert was issued in both 1994 and 1993; no statewide heat alerts were issued in 1992 or 1991.

In 1996, there were 198 heat-related illnesses reported. This is considerably lower than the 819 heat-related illnesses reported in 1995, which was the highest number reported since 1987 when the department started recording heat-related illnesses. See Figure 2.

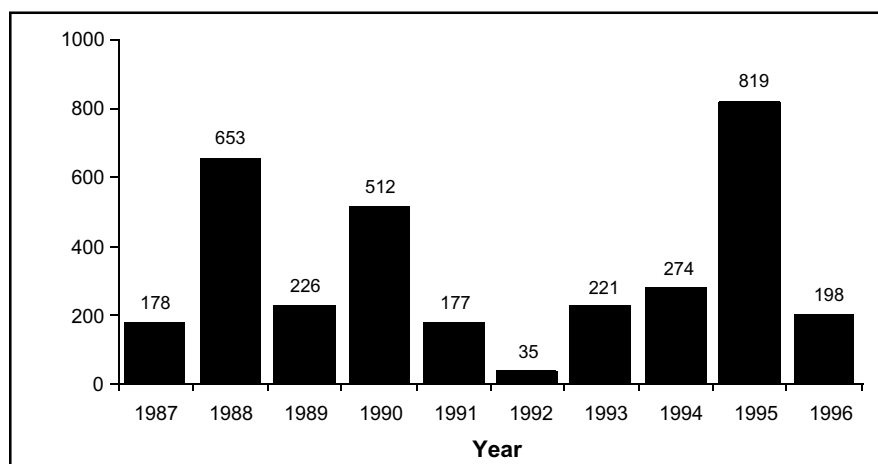


Figure 2. Reported heat-related illnesses by year, Missouri, 1987-96.

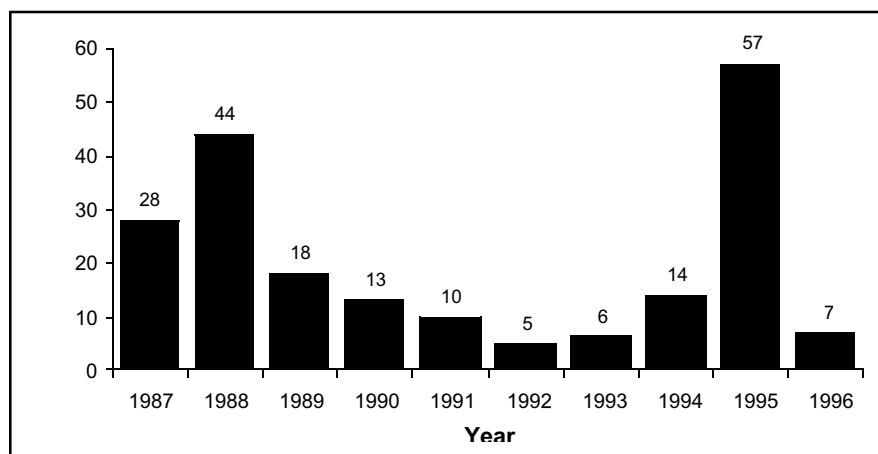


Figure 3. Recorded heat-related deaths by year, Missouri, 1987-96.

In 1996, there were seven heat-related deaths recorded. This is considerably lower than the 57 heat-related deaths recorded in 1995, which was the highest number recorded in the last ten years. See Figure 3. Four (57%) of the heat-related deaths were in individuals aged 49 or older. One death was a 3-month-old left in a parked car on a hot day. One death was a 4-year-old left in a hot room for an extended period of time. One death was a 15-year-old who died from disseminated intravascular coagulopathy, a suspected complication of heat stroke suffered while on a horseback riding trip.

As in past years, the St. Louis area accounted for a large proportion of the heat-related illnesses and deaths in 1996; 95 (48%) of the heat-related illnesses and 2 (29%) of the heat-related deaths.

St. Louis public health authorities have implemented a comprehensive heat surveillance system that encourages the reporting of heat-related illnesses and deaths. St. Louis authorities declared one heat warning on June 21, and one heat alert, on July 18.

Physicians, physician assistants, nurses, hospitals, clinics or other private or public institutions providing care to any person diagnosed with or suspected of having or dying from a heat-related illness are encouraged to report them promptly to their local health authorities. Prompt notification of heat-related illnesses and deaths is essential for an effective heat surveillance system. For further information regarding reporting, call the Bureau of Communicable Disease Control at (800) 392-0272.